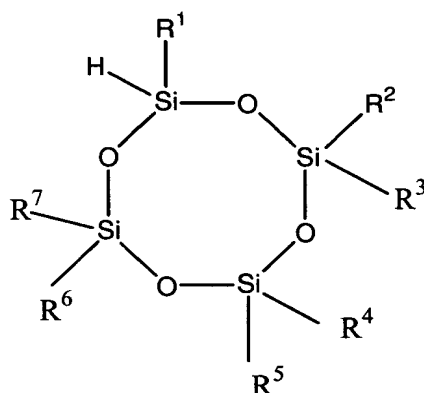


CLAIMS

1. A process for stabilizing a cyclotetrasiloxane against polymerization used in a chemical vapor deposition process for silicon oxides in electronic material fabrication, comprising; providing an effective amount of a free radical polymerization inhibitor to said cyclotetrasiloxane having the following formula:



where R^{1-7} are individually selected from the group consisting of hydrogen, a normal, branched or cyclic C_{1-10} alkyl group, and a C_{1-4} alkoxy group.

2. The process of Claim 1 wherein said free radical scavenger is selected from the group consisting of: 2,6-ditert-butyl-4-methyl phenol, 2,2,6,6-tetramethyl-1-piperidinyloxy, 2,6-dimethylphenol, 2-tert-butyl-4-hydroxyanisole, 3-tert-butyl-4-hydroxyanisole, propyl ester 3,4,5-trihydroxy-benzoic acid, 2-(1,1-dimethylethyl)-1,4-benzenediol, diphenylpicrylhydrazyl, 4-tert-butylcatechol, N-methylaniline, 2,6-dimethylaniline, p-methoxydiphenylamine, diphenylamine, N,N'-diphenyl-p-phenylenediamine, p-hydroxydiphenylamine, phenol, octadecyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate, tetrakis (methylene (3,5-di-tert-butyl)-4-hydroxy-hydrocinnamate) methane, phenothiazines, alkylamidonoisoureas, thiodiethylene bis (3,5-di-tert-butyl-4-hydroxy-hydrocinnamate, 1,2-bis (3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl) hydrazine, tris (2-methyl-4-hydroxy-5-tert-butylphenyl) butane, cyclic neopentetetrayl bis (octadecyl phosphite), 4,4'-thiobis (6-tert-butyl-m-cresol), 2,2'-methylenebis (6-tert-butyl-p-cresol), oxalyl bis (benzylidenehydrazide) and mixtures thereof.

3. The process of Claim 2 wherein said free radical scavenger is 2,6-di-tert-butyl-4-methyl phenol.

4. The process of Claim 2 wherein said free radical scavenger is provided in an amount of 10-1000 ppm (wt.).

5. The process of Claim 2 wherein said free radical scavenger is provided in an amount of 50-500 ppm (wt.).

6. The process of Claim 2 wherein said free radical scavenger is provided in an amount of 50-250 ppm (wt.).

7. The process of Claim 2 wherein said free radical scavenger is provided in an amount of 100-200 ppm (wt.).

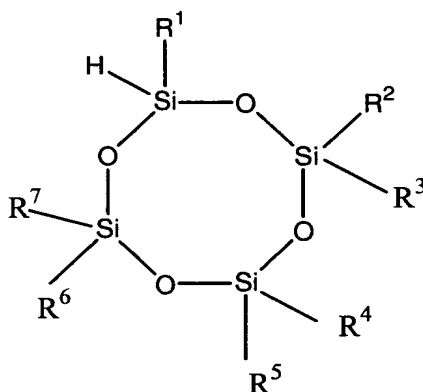
8. A process for stabilizing 1,3,5,7-tetramethylcyclotetrasiloxane against polymerization used in a chemical vapor deposition process for silicon oxides in electronic material fabrication comprising providing an effective amount of a free radical scavenger polymerization inhibitor to said 1,3,5,7-tetramethylcyclotetrasiloxane.

9. The process of Claim 8 wherein said free radical scavenger is selected from the group consisting of 2,6-di-tert-butyl-4-methyl phenol, 2,2,6,6-tetramethyl-1-piperidinyloxy and mixtures thereof.

10. A process for stabilizing 1,3,5,7-tetramethylcyclotetrasiloxane against polymerization caused by oxygen, carbon dioxide and/or nitrogen trifluoride used in a chemical vapor deposition process for silicon oxides in electronic material fabrication comprising providing a free radical scavenger to said 1,3,5,7-tetramethylcyclotetrasiloxane.

11. The process of Claim 10 wherein said free radical scavenger is selected from the group consisting of 2,6-di-tert-butyl-4-methyl phenol, 2,2,6,6-tetramethyl-1-piperidinyloxy and mixtures thereof.

5 12. A composition of a cyclotetrasiloxane stabilizing against polymerization used in a chemical vapor deposition process for silicon oxides in electronic material fabrication, comprising; (a) said cyclotetrasiloxane having the following formula:



10 where R¹⁻⁷ are individually selected from the group consisting of hydrogen, a normal, branched or cyclic C₁₋₁₀ alkyl group, and a C₁₋₄ alkoxy group, and (b) a free radical scavenger polymerization inhibitor.

15 13. A composition of 1,3,5,7-tetramethylcyclotetrasiloxane stabilized against polymerization used in a chemical vapor deposition process as a precursor for silicon oxides in electronic material fabrication comprising 1,3,5,7-tetramethylcyclotetrasiloxane and a free radical scavenger polymerization inhibitor .

20 14. A composition of 1,3,5,7-tetramethylcyclotetrasiloxane, used in a chemical vapor deposition process as a precursor for silicon oxides in electronic material fabrication, stabilized against polymerization, comprising (a) 1,3,5,7-tetramethylcyclotetrasiloxane, (b) a free radical scavenger selected from the group consisting of 2,6-di-tert-butyl-4-methyl phenol, 2,2,6,6-tetramethyl-1-

piperidinyloxy, 2-tert-butyl-4-hydroxyanisole, 3-tert-butyl-4-hydroxyanisole, propyl ester 3,4,5-trihydroxy-benzoic acid, 2-(1,1-dimethylethyl)-1,4-benzenediol, diphenylpicrylhydrazyl, 4-tert-butylcatechol, N-methylaniline, p-methoxydiphenylamine, diphenylamine, N,N'-diphenyl-p-phenylenediamine, p-5 hydroxydiphenylamine, phenol, octadecyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate, tetrakis (methylene (3,5-di-tert-butyl)-4-hydroxy-hydrocinnamate) methane, phenothiazines, alkylamidonoisoureas, thiodiethylene bis (3,5,-di-tert-butyl-4-hydroxy-hydrocinnamate, 1,2,-bis (3,5-di-tert-butyl-4-10 hydroxyhydrocinnamoyl) hydrazine, tris (2-methyl-4-hydroxy-5-tert-butylphenyl) butane, cyclic neopentanetetrayl bis (octadecyl phosphite), 4,4'-thiobis (6-tert-butyl-m-cresol), 2,2'-methylenebis (6-tert-butyl-p-cresol), oxalyl bis (benzylidenehydrazide) and mixtures thereof.

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